

**HARTCROWSER**

Earth and Environmental Technologies

Hart Crowser, Inc.  
Five Centerpointe Drive, Suite 240  
Lake Oswego, Oregon 97035  
FAX 503.620.6918  
503.620.7284**FAX Transmittal**

229-6945

DATE 6/29/01RECIPIENT'S FAX NO. 240-2009NO. OF PAGES (including FAX form) 3

cc:

SEND TO Monty Morshed ; John ChildsCOMPANY DEQ ; POP

RECIPIENT'S DIRECT TELEPHONE NO. \_\_\_\_\_

SENDER'S NAME Todd ThornburgJOB NO. 15045-02

MESSAGE:

Monty,John asked me to provide you  
with additional details regarding  
our sediment sampling methods at  
Terminal 6 last September.Please see the attached  
description and call me if you  
have any questions or need additional  
data/info.Todd

USEPA SF



1286308

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS CONFIDENTIAL OR OTHERWISE EXEMPT FROM DISCLOSURE TO OTHERS UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, please recognize that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone, and return the original message to us at the above address via the United States Postal Service. Thank you.

PLEASE CONTACT (503) 620-7284 IF THERE ARE ANY TRANSMITTAL DIFFICULTIES.

Seattle . Tacoma . Richland . Anchorage . Portland . San Francisco . Long Beach . San Diego . Honolulu . Denver . Mexico City

**SUMMARY OF SEDIMENT SAMPLING METHODOLOGY  
DREDGE MATERIAL CHARACTERIZATION  
TERMINAL 6, PORT OF PORTLAND**

In September, 2000, sediment coring activities were conducted at Berths 603-605, Terminal 6, Port of Portland to support dredge material characterization. This dredged material now resides at the Port's Suttle Road Rehandling facility. The Port is proposing to reuse this material as clean fill, based on the analytical testing results from the initial in-situ characterization data. This data is described in the *Dredged Material Characterization Study*, prepared by Hart Crowser for the Port of Portland, and dated November 20, 2000.

Sediment coring was conducted at eight stations along Berths 603 to 605 at Terminal 6, as summarized in Table 3, attached. The eight stations include T6-00-GC01 through T6-00-GC09, with the exception of T6-00-GC05 because no recovery was obtained at this station. Sediment was collected using a gravity corer. This device has a limited depth of penetration (between 1 and 3 feet) in riverine sediments, but was sufficient for assessing the relatively thin dredge prism at Terminal 6. Eight stations were sampled to gain representative coverage for the dredge prism, as is typical of dredge material characterization programs.

Because the dredged material had to be taken to the Port's upland rehandling facility, due to the county's closure of the open-water disposal site at Morgan Bar, specialized testing was conducted using Corps of Engineers protocols to evaluate the behavior of this material at the rehandling facility, and the potential for contaminants to be released in the return flow to the river. These tests included a Column Settling Test, and two Modified Elutriate Tests. Very large quantities of dredge material are required to conduct these tests (approximately 75 liters of mud in total). Therefore, replicate deployments of the gravity corer were required at each of the sampling stations in order to collect a sufficient volume of mud for testing. At each station, between 5 and 8 replicates were collected, as summarized on Table 3. To achieve the necessary testing volume, about 10 liters of mud had to be collected at each station.

A large composite sample of the dredge prism was then prepared. All replicates and all stations were combined and homogenized. From this one composite, a sample (T6-00-COMP1) and a "blind" duplicate sample (T6-00-COMP2) were submitted for bulk chemical analysis. The remainder of the composite was used to perform the Corps of Engineers tests described above.

**Table 3 - Terminal 6 Berths 603-605 Sampling Locations, Depths, Mudline Elevations, and Sediment Descriptions** Hart Crowser  
 Port of Portland  
 Portland, Oregon J-15045

Core Location	Sampling Date	Latitude	Longitude	Subsample ID	Core Recovery (ft)	Mudline Depth (CRD)	Final Elevation (CRD)	Approx. Volume	Sediment Description
T6-00-GC01	9/12/00	45° 38' 33.85"	122° 45' 3.81"	S-1	0.8	-39.5	-40.3	10.4 L	Soft wet grey SILT over SANDY SILT over SAND
				S-2	1.5	-39.5	-41.0		
				S-3	1.4	-39.5	-40.9		
				S-4	1.8	-39.5	-41.3		
				S-5	1.3	-39.5	-40.8		
				S-6	1.5	-39.5	-41.0		
				S-7	1.0	-39.5	-40.6		
				S-8	1.4	-39.5	-40.9		
T6-00-GC02	9/12/00	45° 38' 31.48"	122° 45' 0.86"	Avg. Composite	1.3	-39.5	-40.8	9.5 L	Soft wet grey SILT over SANDY SILT over SILTY SAND
				S-1	2.0	-39.5	-41.5		
				S-2	1.9	-39.5	-41.4		
				S-3	2.5	-39.5	-42.0		
				S-4	1.9	-39.5	-41.4		
T6-00-GC03	9/13/00	45° 38' 28.80"	122° 44' 57.22"	S-5	1.4	-39.5	-40.9	10.5 L	Soft wet grey SILT over SILTY SAND
				S-6	3.0	-39.5	-42.5		
				Avg. Composite	2.1	-39.5	-41.6		
				S-1	2.8	-39.5	-42.3		
				S-2	2.8	-39.5	-42.3		
T6-00-GC04	9/13/00	45° 38' 25.75"	122° 44' 53.09"	S-3	0.7	-39.5	-40.2	11.4 L	Soft wet grey SILT over SILTY SAND
				S-4	1.4	-39.5	-40.9		
				S-5	3.0	-39.5	-42.5		
				Avg. Composite	2.1	-39.5	-41.6		
				S-1	1.8	-39.5	-41.3		
T6-00-GC05	9/12/00	45° 38' 21.47"	122° 44' 47.27"	S-2	2.1	-39.5	-41.6	0.0 L	Very SANDY with woody debris and rocks
				S-3	1.8	-39.5	-41.3		
				S-4	1.7	-39.5	-41.2		
				S-5	1.6	-39.5	-41.1		
				S-6	NR	NR	NR		
T6-00-GC06	9/12/00	45° 38' 18.36"	122° 44' 43.04"	S-7	2.2	-39.5	-41.7	8.0 L	Soft wet grey SILT over grey SANDY SILT
				Avg. Composite	1.8	-39.5	-41.4		
				S-1	NR	NR	NR		
				S-2	2.6	-40.0	-42.5		
				S-3	1.9	-40.0	-41.9		
T6-00-GC07	9/14/00	45° 38' 32.84"	122° 45' 2.70"	S-4	2.1	-40.0	-42.1	11.2 L	Soft wet grey SILT over SANDY SILT over SAND
				S-5	NR	NR	NR		
				S-6	1.7	-40.0	-41.7		
				Avg. Composite	2.0	-40.0	-42.0		
				S-1	1.8	-39.5	-41.1		
T6-00-GC08	9/14/00	45° 38' 30.84"	122° 44' 59.98"	S-2	1.4	-39.5	-40.9	11.4 L	Soft wet grey SILT over SANDY SILT over SILTY SAND
				S-3	1.3	-39.5	-40.8		
				S-4	1.8	-39.5	-41.3		
				S-5	2.0	-39.5	-41.5		
				S-6	1.8	-39.5	-41.3		
T6-00-GC09	9/14/00	45° 38' 24.18"	122° 44' 50.95"	S-7	1.5	-39.5	-41.0	10.0 L	Soft wet grey SILT over SANDY SILT over SAND
				Avg. Composite	1.6	-39.5	-41.1		
				S-1	1.8	-40.0	-41.8		
				S-2	2.1	-40.0	-42.1		
				S-3	2.0	-40.0	-42.0		
T6-00-GC09	9/14/00	45° 38' 24.18"	122° 44' 50.95"	S-4	2.0	-40.0	-42.0	10.0 L	Soft wet grey SILT over SANDY SILT over SAND
				S-5	1.7	-40.0	-41.7		
				S-6	1.8	-40.0	-41.8		
				Avg. Composite	1.9	-40.0	-41.9		
				S-1	3.0	-40.5	-43.5		
T6-00-GC09	9/14/00	45° 38' 24.18"	122° 44' 50.95"	S-2	1.7	-40.5	-42.2	10.0 L	Soft wet grey SILT over SANDY SILT over SAND
				S-3	2.2	-40.5	-42.7		
				S-4	1.0	-40.5	-41.5		
				S-5	NR	-40.5	NR		
				S-6	2.1	-40.5	-42.6		
T6-00-GC09	9/14/00	45° 38' 24.18"	122° 44' 50.95"	Avg. Composite	2.0	-40.5	-42.5	10.0 L	Soft wet grey SILT over SANDY SILT over SAND
				S-1	3.0	-40.5	-43.5		
				S-2	1.7	-40.5	-42.2		
				S-3	2.2	-40.5	-42.7		
				S-4	1.0	-40.5	-41.5		
T6-00-GC09	9/14/00	45° 38' 24.18"	122° 44' 50.95"	S-5	NR	-40.5	NR	10.0 L	Soft wet grey SILT over SANDY SILT over SAND
				S-6	2.1	-40.5	-42.6		
				Avg. Composite	2.0	-40.5	-42.5		
				S-1	3.0	-40.5	-43.5		
				S-2	1.7	-40.5	-42.2		
T6-00-GC09	9/14/00	45° 38' 24.18"	122° 44' 50.95"	S-3	2.2	-40.5	-42.7	10.0 L	Soft wet grey SILT over SANDY SILT over SAND
				S-4	1.0	-40.5	-41.5		
				S-5	NR	-40.5	NR		
				S-6	2.1	-40.5	-42.6		
				Avg. Composite	2.0	-40.5	-42.5		